

Preh Touch Commander

User Manual and Technical Data

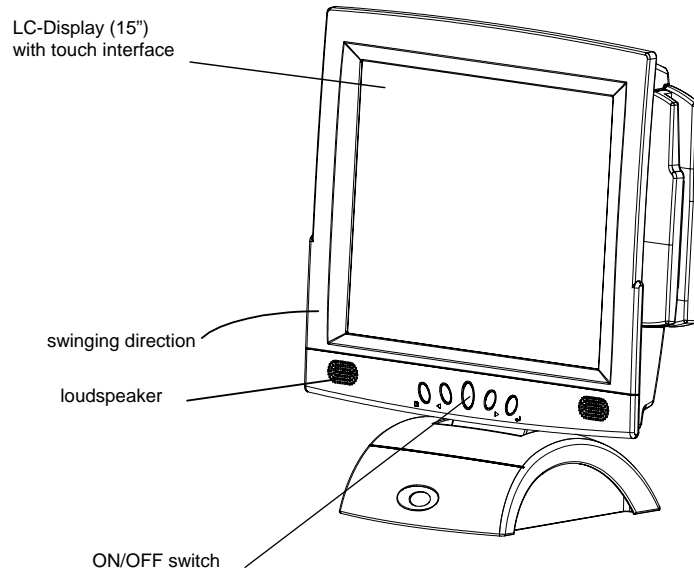
MC15



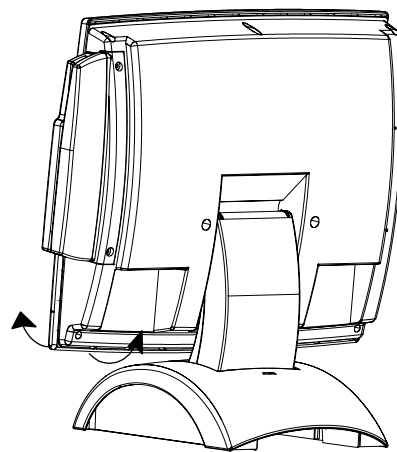
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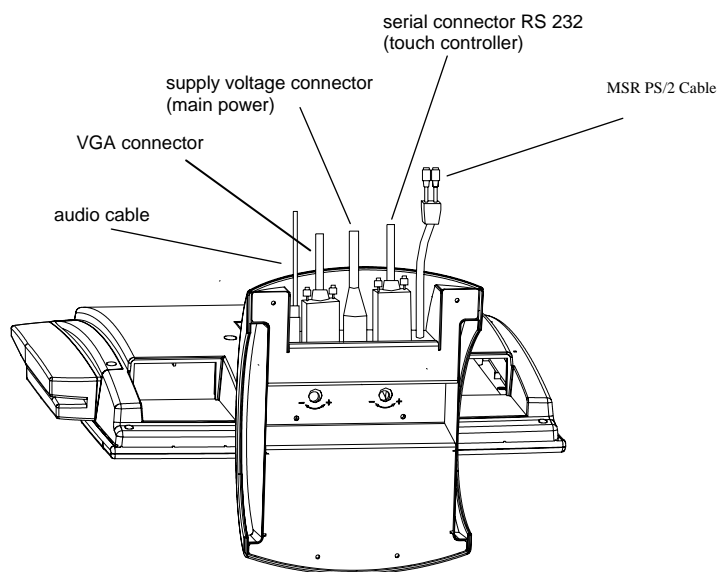
i. Model with multimedia base



Pict. 1: front view



Pict. 2: rear view



Pict. 3: bottom view

ii. Model number define:

	MC15-T7xxM4Myy	
LCD - Größe	15,1"	15
LCD - Type (TFT)	LVDS + Touchkit LVDS + ELO	T6 T7
Touch technology	resistiv seriell	R
Version	Multimedia (incl. Power Supply and Speaker) Adapter plate (wall-mount)	M A
Kartenmodul	MSR Spur 1+2+3 (seitlich)	4
Colour	weiß = white schwarz = black	W S
Accessories	Accessories VGA- cable	A
	VGA- cable & RS232- cable	B
	Power supply & german power cord	GM
	Power supply & UK power cord	UK
Additional remark	Power supply & US power cord	US
	Only for version with ELO touch foil and PT controller with ELO original chip	(ELO)

Example:

MC15 T7RM4WbGM (ELO) => LCD size 15, ELO, resistiv, multimedia MSR 1/2/3, white, VGA & RS232 cable, power supply & german cord (= reference 76504-084/4000)

1. General Points

The Preh Touch Commander serves as graphical input device which makes the screen of the computer react immediately on touching graphical operating characters (symbols, keys, printings etc.). In this way the touchscreen allows simple, interactive handling of a computer even for the PC-inexperienced user. For example this input media offers the possibility of reducing training time and costs for the operating staff via a comfortable user's dialogue. With its ergonomic design and its comfort in handling the Preh Touch Commander is applicable in the fields of medicine, commerce, gastronomy, fast-food as well in the restaurants and hotel business.

The Preh Touch Commander consists of two logical units, the active matrix color LCD (TFT) and the highly sensitive touch sensor. These two units must be considered different from each other in regard to their function. This means that the appearance of the picture on the LCD (screen) is to be considered independent of the touch drivers. As far as the computer is concerned the system is connected with the VGA output (LCD) as well as with a serial interface (touching function).

The Touch Commander can thus take over the function of monitor and mouse. A standard mouse can be used along with the Touch Commander. Both a standard mouse and the Touch Sensor will control the position of the cursor on the screen.

The active matrix Color LCD (TFT) has a diagonal of 15" (381 mm) with a resolution of 1024x768 pixels as well as 262,144 colors. The display has an especially high degree of brightness (typ.350cd/m²) and color brilliancy. The LCD parameters as for example brightness, contrast, picture position etc. are adjustable via the On Screen Display (OSD).

The analog resistive 5 wire touch technology has a resolution of 1,024x1,024 points. Inputting data is done by touching it e.g. with a finger. The activation force necessary to register a touch is 1N. The touch surface consists of a hardened polyester foil with a high resistance against scratches and an insensitivity to dirt, oil and water splashes. The durability of the touch sensor is 35 million single actuation per touching point.

Multimedia models allow the possibility of giving the user audio feedback via sounds and tones. The volume can be adjusted by a rotary control on the rear side of the base.

2. Contents of packing

Prior to operating your Preh Touch Commander, please check whether the following parts are included and are in undamaged condition:

- 1 Preh Touch Commander
- 1 CD-Rom with touch driver for the operating systems DOS, Windows 3,1x/9x/NT/2000 XP and OS/2
- 1 VGA cable
- 1 serial cable
- 1 power cable
- 1 audio cable (only included with multimedia version)

3. Installation of Touchscreen

Please read the following instructions prior to starting to use the Preh Touch Commander!

The following steps are necessary for a correct function of the device:

- 1 Adjust your computer for the proper video resolution [1024x768 / 60 Hz] and switch it off, connect Touch, switch on computer and Touch Commander (see chapter 3.2). If you are asked for confirming the new hardware "standard monitor", confirm according to display instructions.
- 2 Adjust the video display on the Touch Commander for graphic card in the computer by means of menu point "AUTO TUNING" of the OSD. This step is important for the best quality of representation (see chapters 3.3).
- 3 Touch Commander:
Installation of touchscreen driver for the corresponding operating system (see chapter 4).

3.1 Operating Conditions for the System

The Preh Touch Commander has been developed for the use with PC graphic adapters in SVGA-setting with 1024x768 pixels of resolution. As an operating system it is necessary to have either a DOS version 3.3 (or higher), Windows 3.1x, Windows 9x, Windows NT, Windows 2000 Windows XP or OS/2.

For multimedia models a sound card with "Line Out" outputs for generating sounds is necessary in addition.

3.2 Cable Installation and System Settings

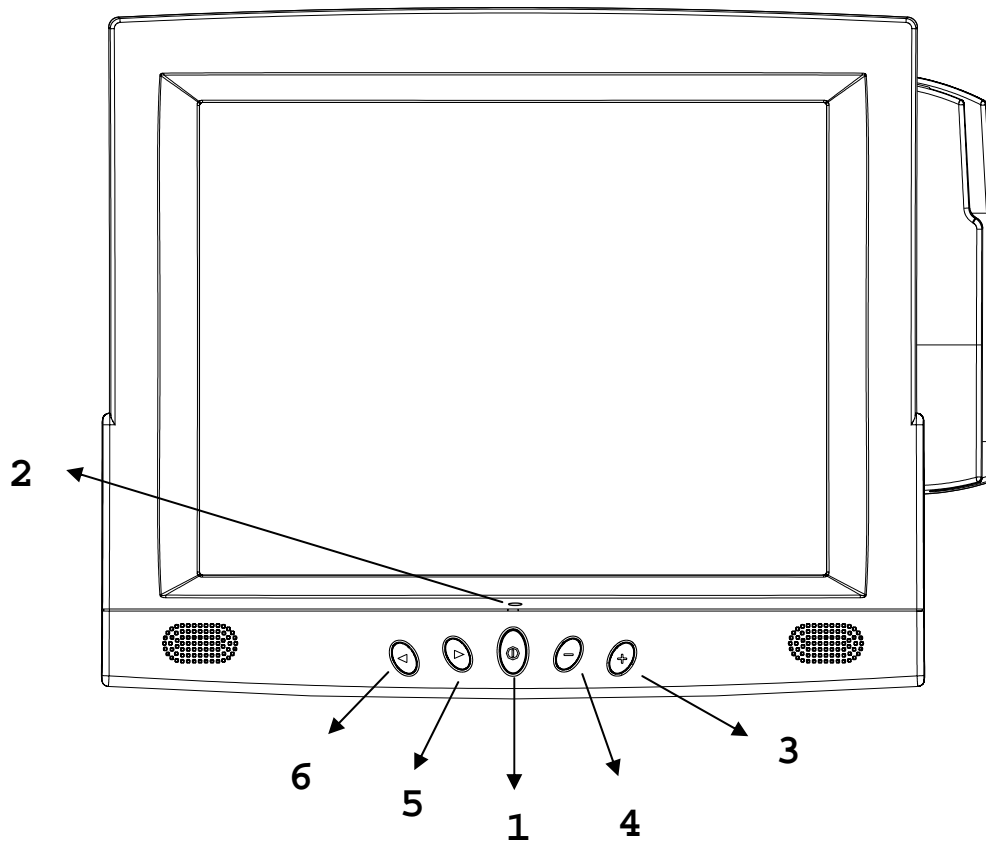
The installation of the cables must be done **with the computer switched off**. Set the correct screen resolution first. The optimum resolution is 1024x768 pixels and the refresh rate 60 Hz.

To begin connect the VGA cable and the RS232 cable as well as the audio cable (see pict. 3). Then plug in the AC power cable to the socket (see pict. 3).

If you now switch on the computer, the LED lights up green after about 3 seconds and the corresponding picture appears on the screen. If the computer is in suspend or standby mode the LED is red. If the SVGA cable between Touch Commander and computer is disconnected, or that the computer power is switched off, the LED lights up red.

3.3 On Screen Display (OSD)

For setting the LC Display you find 5 buttons on the front of the housing (see pict. 5).



Pict. 5: Description of the buttons for perating the On Screen Display.

1. Power Switch

Pressing this button turns the display system power on or off.

When the power switch are switch on, this LED lights in green.

The LED indicates the different power status with altered LED colors when monitor operates in different modes

2. Power LED

This LED indicates different states when this unit operates in different modes.

3. + Plus

This button is used to adjust the increasing value of the selected OSD control option.

4. - Minus

This button is used to adjust the decreasing value of the selected OSD control option.

5. Menu/Select Right

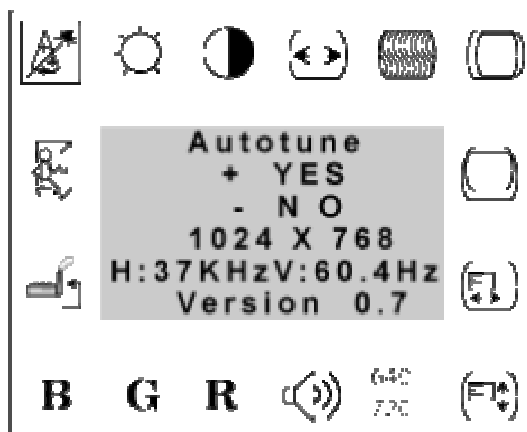
Pressing this button pops up the OSD menus on the screen, and used to select ("Down" direction) the OSD control options on the screen.

6. Menu/Select Left

Pressing this button pops up the OSD menus on the screen, and used to select ("Up" direction) the OSD control options on the screen.

3.3.1 OSD Control

The LCD monitor can easily adjust the features of displayed image and the buttons in the front of the LCD monitor can do the adjustments. When using these controls, OSD menu will display the changed on the screen.



OSD MENU



AUTOTUNE

Press or call menu then press „“ to make LCD monitor adjust the related parameters automatically for optional display status.

Important note to menu point AUTO TUNING:

Important information regarding the AUTO TUNING function.

Most video cards differ as to the video signal output. For this reason, the *MC15* monitor may need to be readjusted after connecting it to a computer. The factory setting of the monitor is set to produce the best results with a variety of industry standard video cards.

To get the best picture quality, under Windows it would be best to use the **Shutdown** screen when activating the AUTO TUNING menu option. By doing this, the display tries to find the best possible adjustment. Please note that this AUTO TUNING must be done for each display mode.

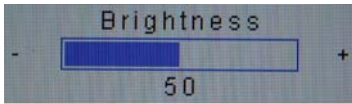
The PHASE option may also be used to manually fine tune the picture clarity after AUTO TUNE has been done.

In some cases when using a notebook computer, it might be necessary to *deactivate* the internal display of the notebook in order to obtain a good picture quality.



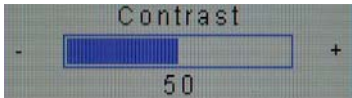
· **BRIGHTNESS**

Adjust the value using **+** and **-** buttons.



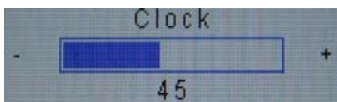
· **CONTRAST**

Adjust the value using **+** and **-** buttons.



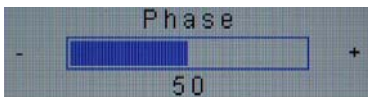
· **CLOCK**

Adjust the value using **+** and **-** buttons.



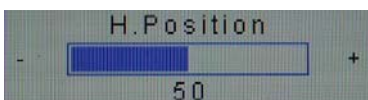
· **PHASE**

Adjust the value using **+** and **-** buttons.



· **H-POSITION**

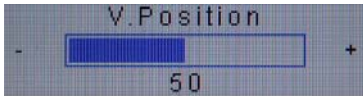
Pressing **+** moves the display image to the right; pressing **-** moves the display image to the left.





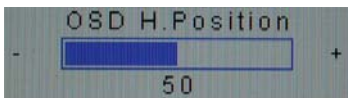
· **V-POSITION**

Pressing **+** moves the display image to the upward; Pressing **-** moves the display image to the downward.



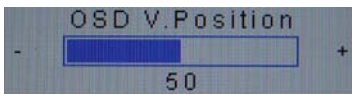
· **OSD H-POSITION**

Pressing **+** moves the OSD image to the right; pressing **-** moves the OSD image to the left.



· **OSD V-POSITION**

Pressing **+** moves the OSD image to the upward; pressing **-** moves the OSD image to the downward.



· **Overlapped Mode**

Pressing the **+** button to Overlapped Mode.

The "UserPrefOverlappedMode" variable is used to control the overlapped mode and the bits are set based

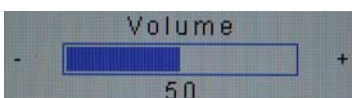
on the current mode to the other mode. If the current input width is 640, then it sets the "UserPrefOverlappedMode" to DOS; and if the width is 720, then it sets the variable to Graphics to change the input width.

However this variable is cleared after the mode setup for the next new mode. Therefore this variable does not need to be saved in the NVRAM.



· **VOLUME**

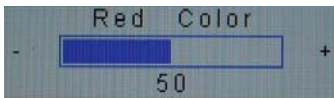
Adjust the value using **+** and **-** buttons.





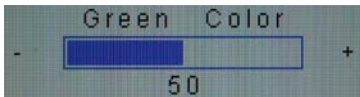
· **RED COLOR**

Adjust the value using **+** and **-** buttons.



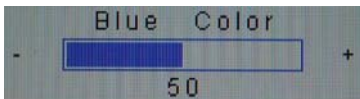
· **GREEN COLOR**

Adjust the value using **+** and **-** buttons.



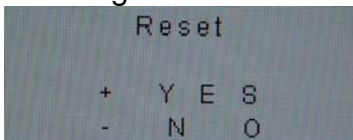
· **BLUE COLOR**

Adjust the value using **+** and **-** buttons.



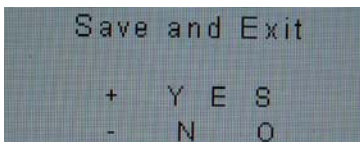
· **Reset**

Pressing the **+** button to Reset.



· **EXIT AND SAVE**

Pressing the **+** button to save changed value and exit.



3.3.2 Key lock Function



· **Key lock**



Press and hold the  button (first) and  button for 6 sec to activate the Key lock.



· **Key unlock**

Press and hold the  button (first) and  button for 6 sec deactivate the Key lock.

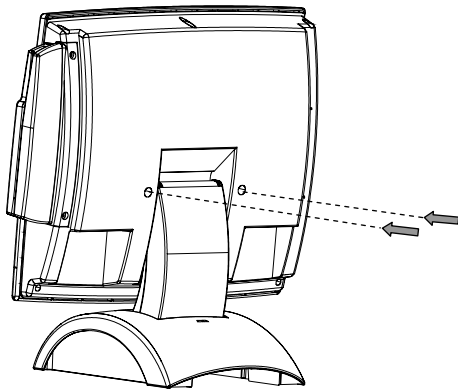
3.3.3 Hotkey Function

This function will only be activated when the OSD function is not started yet.
Pressing the  button and  button to adjust the volume value.

3.4 Mechanical Adjustment of the LCD Position

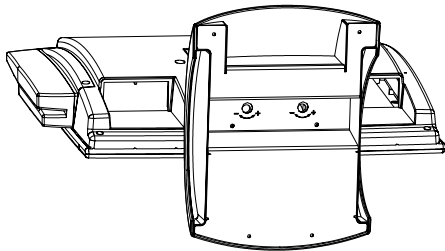
The LCD of the Preh Touch Commander is swingable and tillable. According to the usage the LCD position can be changed.

The below picture shows the model with the multimedia base.



Pict. 6: adjusting screws on rear side

The infinitely variable adjustment of the tilting force can be made with two adjusting screws located on the rear of the monitor. The adjustment torque (1 - 8 Nm) should be about the same on both screws.



Pict. 7: adjusting screws below

The infinitely variable adjustment of the swinging force can be made with two adjusting screws in the base of the monitor. The adjustment torque (1 - 8 Nm) should be about the same on both screws.

Note: On changing the housing position you should be careful to not get your fingers too near to the opening on the rear side of the housing as they might get pinched there.

4. Driver Installation

Important Note:

A new calibration is always necessary if another touchscreen was connected to the computer or if the screen resolution was changed. This means that the calibration between touchscreen and computer is adjusted to the mechanical features of the particular touchscreen which was connected to the computer at that time.

A serial Touch Controller is integrated into the Touch Commander. The default setting is 9600 Bps. Normally this is clearly recognized by the setup programs. If, however, it is not clearly recognized, the adjustment can be done manually or by restarting the corresponding setup program.

Information for the driver installation is in the file:

D:\MC15\TOUCH\TouchKit\... (MC15 T4, T5 or T6)

D:\MC15\TOUCH\ELO\ (MC15 T7)

You can find detailed information in the path, named with your operating system. (The CD-ROM drive of your Tocuh-CD is here defined with the letter „D“).

4.1 Magnetic Card Reader Setup

The setup utility can be found on the installation CD at:

D:\MC15\MSR\PS2\MSR Utility Manual.pdf

(Drive D:\ shown above may vary on each system.)

5. Care

Before cleaning, switch off the power supply. A soft cloth moistened with a mild cleaning agent can be used for cleaning the housing. For cleaning the screen it is better to use a soft paper towel moistened with a mild household cleaning agent. For cleaning the surface do not apply the cleaning liquid directly but use a moistened paper towel. Please avoid getting liquid into the housing.

6. Troubleshooting

6.1 General Points

Attention:

The Preh Touch Commander does not contain any electronic components that can be replaced or repaired by the user. Consequently you should not try to do your own repair work. Moreover, you would lose all warranty claims for this product. Activating the touch sensor surface must not be done with a sharp object, such as credit card, long finger nails, ring, etc. Sharp or pointed objects will cause damage to the touch sensor and are not covered under warranty

If the Touch Commander must be returned for service, it must be packed in it's original packing material. If this is not done, the sender will be made responsible for possible transport damage.

6.2 Diagnostic Program

The diagnostic program COMDUMP is located in the path D:\TOUCH\MONTEST. It is started in DOS mode or command prompt whereby the COM connection must be stated; the baud rate is optional.

COMDUMP <number of COM port 1 or 2> [baudrate]

COMDUMP will then show you the data coming from touchscreen to COM port in hexadecimal data on the screen. If you now contact the touch sensor the sent data should be seen on the display.

6.3 Troubleshooting list

A lot of malfunctions can be traced back to incorrect or loose cable connection. So please make sure that all plug connections are correct and secured.

Fault	Possible cause	Remark
LED on Touch Commander remains dark	voltage supply not in order	check plug-in connection of power supply
	computer switched off	switch on the computer
LED on Touch Commander lights up red and no picture appears	VGA cable is not correctly connected	check cable connection of VGA connection
The display shows only part of the picture or the picture is distorted	choice of display resolution is wrong	check for correct display resolution it should be 1024x768 or less
	display adjustment insufficient	see notice to adjustment of in chapter 3.3
LCD shows indistinct vertical stripes	display ("HORIZONTAL SIZE") is insufficiently set	set horizontal size of picture in menu IMAGE POSITION of OSD(see chapter 3.3.1)
LCD shows fine horizontal stripes	display ("PHASE") is not correctly adjusted	adjust PHASE in menu BASIC-SETTINGS of OSD (see chapter 3.3.1)
Touch cannot be calibrated under the operating systems of Windows, button "calibrate" is deactivated	cable connection incorrect	check serial connection, restart computer
Vertical streaks in LCD image	Display "Clock" or "Horizontal Position" improperly set	Set horizontal position and size of picture in menu "H-Position" and "Clock" of OSD (see chapter 3.3.1)
Calibrating program notifies error when called up	touchscreen driver not correctly installed	Set the driver again with SETUP or with button setup in the calibrating program. Here the serial connection should be correctly entered and the correct controller should be selected. Check the serial cable connection
OSD menu can not be accessed	Key lock is activated	Deactivate Key lock (see chapter 3.3.2)

6.4 Additional help

If you have problems with the connection and the installation of the Preh Touch Commander, please contact your dealer.

You can contact Preh KeyTec Technical Support at:

Germany/World wide:

Email: support@preh-keytec.com

fax: +49 (9771) 92-152

USA/America:

E-Mail: Techsupport@preh.com

fax: +1 847-438-4053

7. Technical Data

7.1 Product Specification

Configuration		MC15-T7XXM4MX
LCD Display		15" TFT active matrix panel
Display Size		304(H)x228(V) mm
Pixel Pitch		0.297(H)x0.297(V) mm
Max. Resolution		XGA 1024x768
Contrast Ratio		400:1
Brightness		350 cd/m ²
Response Time		6/17 ms
Display Color		262,144
Viewing Angle	L/R	60° ~ 60°
	U/D	40° ~ 60°
	Swivelling	39° +/- 3°
	Tilt	40° +/- 3°
PC Interface	Video	RGB analog 0.7V peak to peak
	Sync.	TTL positive or negative
Display Mode		VGA 640x400 (60/70 HZ)
		VGA 640x480 (60/72/75 HZ)
		VGA 720x400 (70 HZ)
		SVGA 800x600 (60/70/72/75 HZ)
		XGA 1024x768 (60/70/72/75 HZ)
Signal Connector		D-sub 15 pin
Front Control		Menu, Left, Power on/off with LED, Right, Select
OSD		AutoTun, Brightness, Contrast, Color, Phase, H-POS, V-POS, OSD H-Pos, OSD V-Pos, Volume, Red Color, Blue Color, Green Color, EXIT AND SAVE, Reset, Overlapped Mode, Key lock Function
Plug & Play		DDC1/2B compatible
Speaker		Active Speaker
Power		Input: AC 110-240 Volts, 47 – 63 Hz, Output: DC 12V/4A
Operating Conditions	Temperature	0°C - 40°C (32°F - 104°F)
	Humidity	20%~ 85%
Storage Conditions	Temperature	-10°C - 60°C (-4°F - 140°F)
	Humidity	5%~ 85%
Life of background illumination		typ.50,000 h
Base Type		Multimedia / Wall Mount
Touch Screen		Option / RS232 Interface
Magnetic Stripe Reader		Option / Three tracks
Certification		UL, CUL, FCC, TUV/GS, CE

* Specifications are subject to change without notice.

7.2 Electronics:

Following specifications are for the **multimedia model** only:

Line voltage:	100-240 AC, 47-63 Hz, 0.6A
Power consumption	max. 20 W

7.3 Touch:

Interface:	RS232, Mouse Emulation under DOS, Windows 3 x, Windows 9x, NT, 2000, XP, Linux and OS/2
Technology:	5-wire resistive
Resolution:	max. 2048*2048
Surface:	hardcoated polyester foil
Transmission:	75%
Durability	35 million actuation

7.4 Touch Controller

Controller:	ELO Coach 115275-000
Power Requirement:	5V/100mA
Operating Temperature:	0 to 70°C
Storage Temperature:	-65°C to 150°C
Relative Humidity:	95% at 60°C
Interface:	RS232
Protocol:	8 data bit, 1 stop bit, 9600 baud (N, 8, 1, 9600)

7.5 MSR (Option)

Interface:	PS/2
Track:	Three Tracks
Decode:	KB Interface
Scan direction:	Right Side scan.
Power Supply:	5V DC $\pm 5\%$
Power consumption:	Less than 20mA
Durability:	500,000 cycle.
Card Spec:	ISO7811
Reading Track Width:	1.5mm
Card Feeding Speed:	10 ~ 120 cm/sec(4-50inch/sec)

7.6 Audio

Amplifier Controller: TDA7496L
Output: 2W/Ch.
Power: 12V/25mA
Control Method: PWM Adjust.
Frequency: 20 ~ 20KHz

7.7 ESD and EMC compliance

CE-sign (see also Statement of confirmation)

Radiated Emissions: EN55022, class B
FCC part 15, class B

Susceptibility

Compliance:

1. electrostatic discharge according to EN 61000-4-2 (hardness air +,-8KV and contact +,- 4KV)
2. high frequency electromagnetic fields EN 61000-4-3 (hardness Modulation 3 V/m),
3. fast transient/burst immunity electrical interference features according to EN 61000-4.4 (Criteria B: hardness 1 kV for AC power)
4. Surge immunity test according to EN 61000-4-5 (Criteria B)
5. Immunity for conductive disturbance test according to EN61000-4-6(Criteria B: level is 3V Modulation)
6. power frequency magnetic field test EN 61000-4-8 (Criteria B: 1A/m)
7. voltage dips , short interrupt and voltage variation immunity EN 61000-4-11(Criteria B)
8. power harmonics test EN 61000-3-2(Criteria A:<=75W)
9. voltage fluctuation test EN 61000-3-3

7.8 Durability of mechanical bearing parts

Tilting and swinging 1.000 cycles typical

7.9 Environmental conditions

Operating ambient temperature: 0°C...50°C
Storing temperature: -20°C...60°C
Relative humidity of air: 10%...90% (at max. 35°C)
Air pressure: 700hPa...1060hPa

8. Safety issues

Please read these instructions carefully before connecting the unit to any AC-mains and keep the instructions also for later use.

The multimedia type is belong to Class I type and the wall mount type is belong to Class III type for power consuming configuration.

First check the power values of your AC-mains with the datas of this device, before connecting to any wall-plug socket.

Place the unit as close as possible to your wall-plug socket and make sure, that the mains connector is easily accessible. Make also sure, that there are no other equipments placed on the cable and also that it's placed in a way, that nobody can fell over it. If the unit is not in use for a longer period, it should be disconnected from mains.

Protect the device from any liquids and high humidity. Do not operate the unit outdoors.

Unplug the device from the wall-plug socket immediately and have it checked by a qualified Service person in case:

- the mains cable or connector is being damaged
- liquids have been penetrated into the device
- the device has been exposed to the elements (dampness/rain)
- the device does not operate as to the operating instructions
- the device has been dropped and / or shows outside damages (i.e. cabinet)
- the device shows markable performance of deffects

Do not open the device on your own as there is dangerous voltage inside. Apply to the Service or your dealer for any repair issues.

Do not drink liquid crystal leaking from the LCD in case of a damage. If such leakage touches your skin, clean it by water & soap, immediately.

The working place related sound pressure level (DIN 45 645) of the device is less then 70dB(A)

It is only permitted to use tested / certified power cables H03VV-F.3G, 0.75 and / or better ones.

The maximum environment temperature is 40 degrees Celsius

GS and ISO 9241-7 for class III certified Screens will meet its classification under the following conditions:

- the operation of the screen complies to suitable working place illumination environment
- the screen shall not be placed in front of a window or direct light

9. Further Information

All Preh KeyTec products are subject to a continuous process of improvement. For this reason we reserve the rights of technical modifications.

We point out that inadequate handling, storage, influence and/or modification can cause disturbances and damage in usage.

In case you modify our products in any way we do not assume warranty and liability unless you have an explicit release in writing for your specific case.

This applies especially to unprofessional repair and maintenance jobs.

Any claims for damages against the Preh works – no matter for which legal reason – are excluded if no intention and gross negligence can be proved. Above limitation do not apply to claims for damages out of the product liability law.

This Operator's Manual is exclusively valid for the product Preh Touch Commander supplied with it.

10. Warranty

Preh KeyTec guarantees that all products supplied are free from production and material faults. The period of warranty is two years and begins with the date of delivery.

Otherwise the general sales conditions of the Preh KeyTec company are valid.

11. Statement of Confirmation

This is to certify that statements of confirmation are available for all different versions of the Preh Touch Commander.

You can request a copy from Preh KeyTec stating the exact type description (see type label on the bottom of the device).

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12. FCC Warning Statement

Note: This equipment has been tested and to comply with the limits for Class B or Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with the emission limits.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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